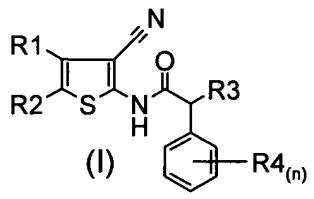
We claim:

1. A compound of formula (I)



wherein

R1 and R2 are independently selected from the group consisting of lower alkyl, lower alkoxy, aminoalkyl, aryl, aralkyl, substituted lower alkyl, substituted lower alkoxy, substituted lower aminoalkyl, substituted aryl and substituted aralkyl, wherein the substituent is selected from the group consisting of one or more of halogen, hydroxy, lower alkoxy, amino, alkylamino, diaklylamino, cyano and nitro; or

R1 and R2 are taken together with the carbon atoms to which they are attached and the bond between these carbon atoms to form a 4 – 8 membered, substituted or unsubstituted, carbocyclic or heterocyclic ring, wherein any substituents are independently selected from the group consisting of halogen, hydroxy, lower alkyl, aryl, aralkyl, amino, alkylamino, dialkylamino, alkylsulfonyl, and alkoxycarbonyl;

R3 is selected from the group consisting of lower alkyl, substituted or unsubstituted aryl, substituted or unsubstituted aralkyl, and substituted or unsubstituted cycloalkyl, wherein any substituents are selected from the group consisting of lower alkyl, lower alkoxy, halogen, cyano, trifluoromethyl, hydroxy, nitro, amino, alkylamino, dialkylamino, carboxy, aminocarbonyl, phenyl, benzyl, phenoxy and benzyloxy; and

R4 is selected from the group consisting of lower alkyl, lower alkoxy, halogen, cyano, trifluoromethyl, hydroxy, nitro, amino, alkylamino, dialkylamino, alkylsulfonyl, and alkoxycarbonyl; and

n is 0, 1, 2, 3, 4 or 5.

2. The compound according to claim 1, wherein R1 and R2 are taken together with the carbon atoms to which they are attached and the bond between these carbon atoms to form a 4 – 8 membered, substituted or unsubstituted, carbocyclic or heterocyclic ring, wherein any substituents are selected from the group consisting of halogen, hydroxy, lower alkyl, amino, alkylamino, dialkylamino, alkylsulfonyl, and alkoxycarbonyl.

3. The compound according to claim 2, wherein R1 and R2 are taken together with the carbon atoms to which they are attached and the bond between these carbon atoms to form a carbocyclic ring.

4. The compound according to claim 3, wherein R1 and R2 are taken together with the carbon atoms to which they are attached and the bond between these carbon atoms to form a cyclopentyl or a cyclohexyl ring.

5. The compound according to claim 4, wherein R3 is a substituted or unsubstituted cycloalkyl.

6. The compound according to claim 5, wherein R3 is cyclopentyl.

7. The compound according to claim 4, wherein R3 is substituted or unsubstituted aryl.

8. The compound according to claim 7, wherein R3 is phenyl.

9. The compound according to claim 4, wherein R3 is lower alkyl.

10. The compound according to claim 9, wherein R3 is selected from the group consisting of methyl, ethyl, propyl, isopropyl and sec-butyl.

11. The compound according to claim 2, wherein R1 and R2 are taken together with the carbon atoms to which they are attached and the bond between these carbon atoms to form a substituted or unsubstituted heterocyclic ring.

12. The compound according to claim 11, wherein R1 and R2 are taken together with the carbon atoms to which they are attached and the bond between these carbon atoms to

form a six-membered substituted or unsubstituted heterocyclic ring containing at least one heteroatom.

13. The compound according to claim 12, wherein R1 and R2 are taken together with the carbon atoms to which they are attached and the bond between these carbon atoms to form a six-membered substituted or unsubstituted heterocyclic ring containing one heteroatom.

14. The compound according to claim 13, wherein R3 is a substituted or unsubstituted cycloalkyl.

15. The compound according to claim 14, wherein R3 is cyclopentyl.

16. The compound according to claim 13, wherein R3 is substituted or unsubstituted aryl.

17. The compound according to claim 16, wherein R3 is phenyl.

18. The compound according to claim 13, wherein R3 is lower alkyl.

19. The compound according to claim 18, wherein R3 is selected from the group consisting of methyl, ethyl, propyl, isopropyl and sec-butyl.

20. The compound according to claim 13, wherein the heterocyclic ring is substituted with a ring substituent selected from the group consisting of lower alkyl, alkylsulfonyl, alkoxycarbonyl, aryl and aralkyl.

21. The compound according to claim 20, wherein the heteroatom is a nitrogen atom.

22. The compound according to claim 21, wherein the ring substituent is attached to the nitrogen atom.

23. The compound according to claim 1, wherein R1 and R2 are independently selected from the group consisting of lower alkyl, lower alkoxy, aminoalkyl, aryl, aralkyl, substituted lower alkyl, substituted lower alkoxy, substituted lower aminoalkyl, substituted aryl and substituted aralkyl.

24. The compound according to claim 23, wherein R1 and R2 independently are lower alkyl.

25. The compound according to claim 24, wherein R3 is a substituted or unsubstituted cycloalkyl.

26. The compound according to claim 25, wherein R3 is cyclopentyl.

27. The compound according to claim 24, wherein R3 is substituted or unsubstituted aryl.

28. The compound according to claim 27, wherein R3 is phenyl.

29. The compound according to claim 24, wherein R3 is lower alkyl.

30. The compound according to claim 29, wherein R3 is selected from the group consisting of methyl, ethyl, propyl, isopropyl and sec-butyl.

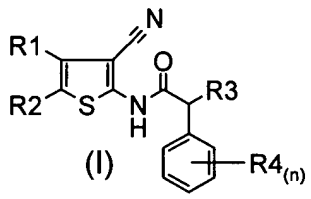
31. The compound according to claim 1, wherein the compound is selected from the group consisting of:
N-(3-Cyano-4,5-dimethyl-thiophen-2-yl)-2,2-diphenyl-acetamide;
N-(3-Cyano-4,5-dimethyl-thiophen-2-yl)-2,3-diphenyl-propionamide; and
N-(3-Cyano-4-methyl-5-ethyl-thiophen-2-yl)-2,3-diphenyl-propionamide.

32. The compound according to claim 1, wherein the compound is selected from the group consisting of:
N-(3-Cyano-4,7-dihydro-5H-thieno[2,3-c]pyran-2-yl)-2,2-diphenyl-acetamide;
3-Cyano-2-diphenylacetylamino-4,5,6,7-tetrahydro-5H-thieno[2,3-c]pyridine-6-carboxylic acid tert-butyl ester;
3-Cyano-2-(2-phenyl-propionylamino)-4,5,6,7-tetrahydro-5H-thieno[2,3-c]pyridine-6-carboxylic acid tert-butyl ester;
3-Cyano-2-(3-methyl-2-phenyl-butyrylamino)-4,5,6,7-tetrahydro-5H-thieno[2,3-c]pyridine-6-carboxylic acid tert-butyl ester;
3-Cyano-2-(3-methyl-2-phenyl-pentanoylamino)-4,5,6,7-tetrahydro-5H-thieno[2,3-c]pyridine-6-carboxylic acid tert-butyl ester;

N-(3-Cyano-6-methanesulfonyl-4,5,6,7-tetrahydro-thieno[2,3-c]pyridin-2-yl)-2,2-diphenyl-acetamide;
N-(3-Cyano-6-methyl-4,5,6,7-tetrahydro-thieno[2,3-c]pyridin-2-yl)-2,2-diphenyl-acetamide;
3-Cyano-2-diphenylacetylamino-4,5,6,7-tetrahydro-5H-thieno[2,3-c]pyridine-6-carboxylic acid methyl ester; and
N-(3-Cyano-4,7-dihydro-5H-thieno[2,3-c]pyran-2-yl)-2-phenyl-butyramide.

33. The compound according to claim 1, wherein the compound is selected from the group consisting of:
3-Methyl-2-phenyl-pentanoic acid-(3-cyano-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl)-amide;
3-Methyl-2-(2-phenyl-propionylamino)-(3-cyano-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl)-amide;
N-(3-Cyano-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl)-2,2-diphenyl-acetamide;
N-(3-Cyano-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl)-2-cyclopentyl-2-phenyl-acetamide;
N-(3-Cyano-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl)-2,2-diphenyl-acetamide; and
N-(3-Cyano-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl)-2-phenyl-propionamide.

34. A pharmaceutical composition comprising:
a compound of formula (I)



(I)

wherein

R1 and R2 are independently selected from the group consisting of lower alkyl, lower alkoxy, aminoalkyl, aryl, aralkyl, substituted lower alkyl, substituted lower alkoxy, substituted lower aminoalkyl, substituted aryl and substituted aralkyl, wherein the substituent is selected from

the group consisting of one or more of halogen, hydroxy, lower alkoxy, amino, alkylamino, diaklylamino, cyano and nitro; or

R1 and R2 are taken together with the carbon atoms to which they are attached and the bond between these carbon atoms to form a 4 – 8 membered, substituted or unsubstituted, carbocyclic or heterocyclic ring, wherein any substituents are independently selected from the group consisting of halogen, hydroxy, lower alkyl, aryl, aralkyl, amino, alkylamino, dialkylamino, alkylsulfonyl, and alkoxycarbonyl;

R3 is selected from the group consisting of lower alkyl, substituted or unsubstituted aryl, substituted or unsubstituted aralkyl, and substituted or unsubstituted cycloalkyl, wherein any substituents are selected from the group consisting of lower alkyl, lower alkoxy, halogen, cyano, trifluoromethyl, hydroxy, nitro, amino, alkylamino, dialkylamino, carboxy, aminocarbonyl, phenyl, benzyl, phenoxy and benzyloxy;

R4 is selected from the group consisting of lower alkyl, lower alkoxy, halogen, cyano, trifluoromethyl, hydroxy, nitro, amino, alkylamino, dialkylamino, alkylsulfonyl, and alkoxycarbonyl; and

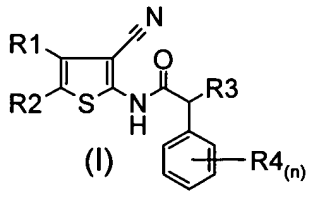
n is 0, 1, 2, 3, 4 or 5;

and pharmaceutically acceptable salts thereof; and

a pharmaceutically acceptable carrier and/or adjuvant.

35. A method for treating or preventing diseases mediated by the antagonism of the glucagon receptor, comprising:

administering to a patient in need thereof, a therapeutically effective amount of a compound of the following formula (I)



(I)

wherein

R1 and R2 are independently selected from the group consisting of lower alkyl, lower alkoxy, aminoalkyl, aryl, aralkyl, substituted lower alkyl, substituted lower alkoxy, substituted lower aminoalkyl, substituted aryl and substituted aralkyl, wherein the substituent is selected from the group consisting of one or more of halogen, hydroxy, lower alkoxy, amino, alkylamino, diaklylamino, cyano and nitro; or

R1 and R2 are taken together with the carbon atoms to which they are attached and the bond between these carbon atoms to form a 4 – 8 membered, substituted or unsubstituted, carbocyclic or heterocyclic ring, wherein any substituents are independently selected from the group consisting of halogen, hydroxy, lower alkyl, aryl, aralkyl, amino, alkylamino, dialkylamino, alkylsulfonyl, and alkoxycarbonyl;

R3 is selected from the group consisting of lower alkyl, substituted or unsubstituted aryl, substituted or unsubstituted aralkyl, and substituted or unsubstituted cycloalkyl, wherein any substituents are selected from the group consisting of lower alkyl, lower alkoxy, halogen, cyano, trifluoromethyl, hydroxy, nitro, amino, alkylamino, dialkylamino, carboxy, aminocarbonyl, phenyl, benzyl, phenoxy and benzyloxy;

R4 is selected from the group consisting of lower alkyl, lower alkoxy, halogen, cyano, trifluoromethyl, hydroxy, nitro, amino, alkylamino, dialkylamino, alkylsulfonyl, and alkoxycarbonyl; and

n is 0, 1, 2, 3, 4 or 5,

and pharmaceutically acceptable salts thereof.

36. The method according to claim 34, wherein said disease is diabetes.